FIGURE 1

```
   1 ggatcctttc atgtttaaca atatcaaccc taacccaagg ggaacagcct gcctgacagt
  61 ggctttgcca cccatgaata cttcctagtc tagtccgttt gtgaaactca gcccatccca
 121 acactttctgc aagccccatc ctctacaagg tgctcattgg gaatttcctg gagcttctct
 181 ttcaggatca gcctgattct agggcagcag ttctcaacct gggggcctcg acccctttgg
 241 gggaatcaaa cgacccttta caggggtcac atatcatcta tcctatatgt caggtattta
 301 cattacgatt cgtaacagta gcaaaattac aggtatgaaa tagcaatgaa ataatttttat
 361 gattgaaggt caccacaaca tgaggccgcc acactgttct agagaaaaat cacctgggtg
 421 gggaaaggtt tgggaaagcc tttctgtcca ttcttcattc ttcaaagtga tgtgttcaca
 481 gaaagccttt cagctgttct gctggggctc ttagtaagtc tgagtaggaa ctgtatgtac
 541 caggtctgct tcttatgggt ggagccaaga cgcatcgtgg gtggagcgaa gacgcaacct
 601 caccttctag ctctgcatcc atagcaagta gcctaatgtt tctgtgtcta ggtgtcatct
 661 ctgtgaatcg agatccttgg ccttgcttga attagggagg cacaaaatac tcagagattc
 721 aagactgctc agcagcccag agtccttcct caaaggaaag gtctcaactc tcagcccccc
 781 ttagctctga gtcaggcctg gaacaaacgg ccacaggaat gagaaaagct gccatagctg
 841 cttgtcactt caagaggtca aagaaaatag tgttaaccat gaaaacgaga agaccaacag
 901 ttatccattg atagcgtctc aggacagata ggacagagag aacactagga gaggggaacc
 961 cacgaaggac aaggtattag tgtgttggtt ttcagggcaa tgtcttgtac tgaagattct
1021 agaaacacaa tttgctggtt gaacagctga agtggggtgg gggttcttac cccatgttca
1081 tggaagggtg agtgaggaga gacagatata tgatggccag cataacaaac atacacaaca
1141 ccctaattaa cacttccctc ttctactgac acccccttca ctctcctctt tcataaaaaa
1201 taaaaaaagt attttatgtg gctcttacga tagaatcttt cctcgaacta taaaaagatc
1261 taaatattta tatttttcac atttaatat cttagcgatg acaagccaga aacaagtatt
1321 ttttgcctct ctcaacagca aagcttgggg cctttttgtt tccgtgttag gaatagaaca
1381 cgagagcccc gtgtatctag gcagatgctc tatcattagc ccatgagtct ccagcctcag
1441 acgcacattt ttctcgggct ctcttaagct tttcccacag cattgggaaa ctttactgac
1501 agcatccaag ttgtgcttct gctaagaact ggactcacat ctctctgtgc atcacttcgg
1561 cccgttttgg ggtagatcct ctgattagcc ttcagattta gaacacggtg agcctgtggt
1621 gcactaatta tggccagtga caccatagag tcaaagtgca ttactgaatg ctttcaattt
1681 ctcctaatgc tggtacgatg gcatgtcaca gggccatttt agctgcagac atcactccag
1741 agaattccaa acagatagag acaagtggca cccagaccca tctccttccc ctcgggctga
1801 ttatccccag aaataggatg tcccaaagca acacttccca gccaactgga gtgctgataa
1861 gtccagttat cagaaagata tggctgtaag tgtgatgcac agtgcttgca ttttcttgat
1921 acgttagtca tatgagagct gacaaagaag gaaaaagagc agcgatgtgg tgcaatatta
1981 acaggcagct gtcccctggc ttcccgatac gtgggatgac tcgcattgct gagcggtgtg
2041 gtcactgcca aaggaatgac cctcttacat ttcttcctga ttcgcatacg ccgcggccag
2101 cttgtcatct ccctcttggg cttcccagac actaagtctg gaatgaaaat tcacctgcct
2161 ctgaattggc cactggtggg ggcaggggtg tgacttggct tcccaggctg gaagattatc
2221 tcacccagcc ctagctatat aacgggctgg tgtggagggg ctccacaggg ccagttccag
2281 gggttcatcc acaagagaga aaaacataga ctcgaggtct agggagcttg catgcctgca
2341 ggtcggaggc caccatgg
```

FIGURE 2

```
   1 ctgcagcaag ttacttaatg ttttttgcct cagcatcctc tctgtaaaat gagagcatta
  61 gtcttgctcc aacttcgagg gcatggacag ctctgggatt tcatatccaa gacccttaaa
 121 catcccacag tccttccccc aaacacttct cctcctaata cctccctcag tttgggtcag
 181 gcctggaaca aaaaggcata cgaaatggta gaaaaagtgt ccatgactac ttctgactta
 241 gatgaagaga ccaatgaaaa tagtaatgac tctgtttgct tcagcaggac atatactaaa
 301 ataggagcta tacaaagaag attagcatgg actctgtgca agaatgacac acaaatttgt
 361 gaaacattcc atatattaaa aataaataaa taataaagag aaaaggaaaa aattaaaaag
 421 aaaatagtga tagctgtgtc catctcaaag aaaagcccag gagatttcct ttatttaccc
 481 cctttaagat agaatattag gagaccggaa catatgatac aggaggtact gggagggtcc
 541 ctctttgtca atgttttgtc ttggggtggg gagtcgatgt cttctcaaag tttcagaaac
 601 accatccact gactgagcat tcaaggggca agaggagaat ggcagccaca tttgttgatt
 661 gggtgagttt ggggagaaat agacacacaa aggtcaaaca taacttccta attaacactt
 721 ccctccattc acaattccct tctcccattc ttctctcctg tcttttacts akaraaaccc
 781 agtttttcct gaaactataa aaataccccc agtatgttta cataatttac acctcaaaga
 841 ttagaaacca gaaatagaga ccttttcaac ccttccggaa gcaaagtgca ttatccctcc
 901 agccacgtgt ctcaaatctt gatgcatcag aatcatctgg gtgctttkaa attcaagatg
 961 attcctacga gttaccataa atcaactcag aattccctgg agtggggcca gggatctgta
1021 tttctgacaa gctcccacag gtgattcctt tccccacagc atttgagaac ttcagctcaa
1081 tgacctaatc agagtcctgc cattgctaat atctggtctc atttttbtca tatatatata
1141 tagtatttgt ggtagagatg ggattttgcc atgttgccca ggctagtatt gaactcctaa
1201 gctaagcaat cttcctgtct ctgcctccca aaatgttggg attacaggtg taagccactg
1261 cacccggctg atagctggtt tcatttactc tatttcttga ccactctgat ccattttgaa
1321 gtaaaaatgc tccaattatt atgctgtttt agaacacggt aagcatgtca tgtgctaatg
1381 gccagtgaca tcataaaaga aaagtgcatt actgaatgct ttcaatgtct tataatgatg
1441 gtaaggtggc atgtcatggg gcctatttag cccagacatc actccaaaga attccaaaca
1501 gatatagaca agtgccttta gggcccagat cccttccct caggctgttt acccagggaa
1561 taggatgtcc tgggacaagt ttcccctaag tgaagtgttg ataagtctgc ttatcagaaa
1621 gatattactg ggggtgtgat atgtagggca tctacatttt cttgataggt agtcatatga
1681 aagctgacaa agaaaaaaag ggcagtgatg tggtgcaatg tcaacagaca gctgtccct
1741 gactcttgac aaataggatg acttgcattg ctgagcgatg tgatcaccac caaaggaatg
1801 gccctctcac atttcttcct gattcacata ttcagcaggg ttagcttgtc ctcccctccc
1861 tcttcagctt cccagacact gagtctggaa tgaaaattca cctgcctctg agttggctcc
1921 taatgggggc gggagtgtta cttcggttcc caggttggaa gattatctca cccggcccca
1981 gctatataag ctgaccggtg tggaggggcc cagcagggcc aactccaggg attccttcca
2041 cgacagaaaa acatacaaga ctccttcagc caac
```

FIGURE 3

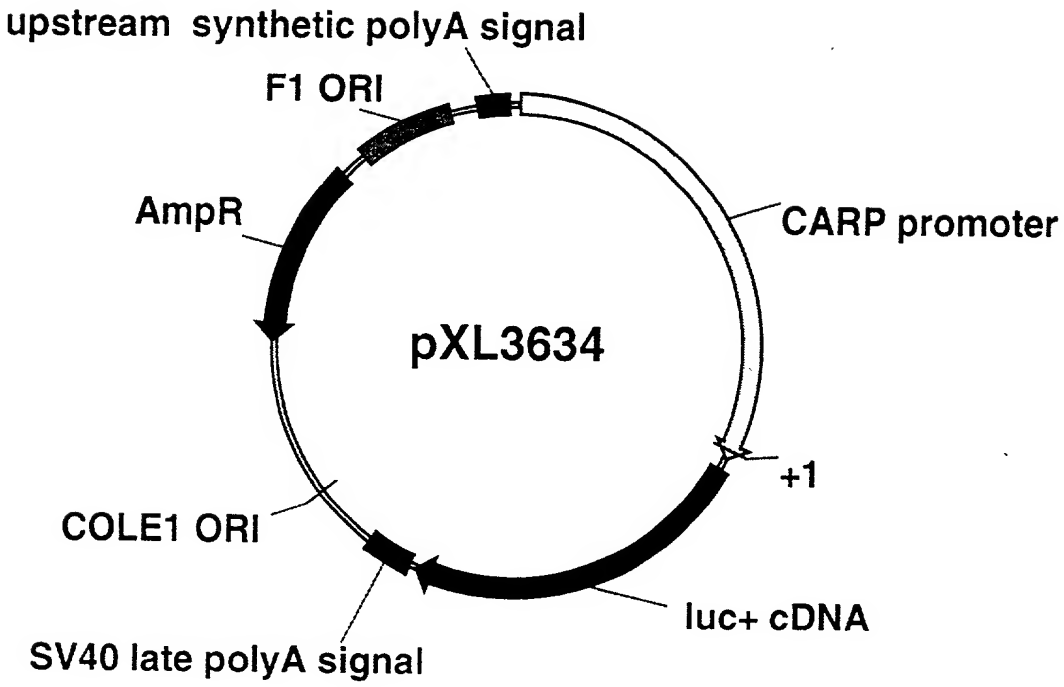
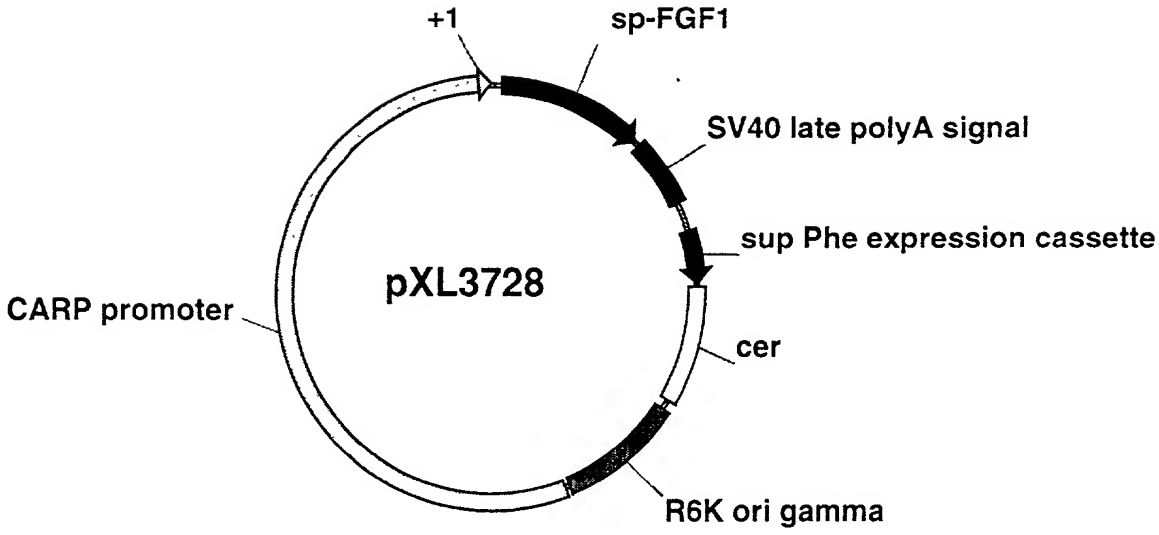

upstream synthetic polyA signal
F1 ORI
AmpR
CARP promoter
pXL3634
+1
COLE1 ORI
luc+ cDNA
SV40 late polyA signal

FIGURE 4




Replacement Sheet

**FIGURE 5**

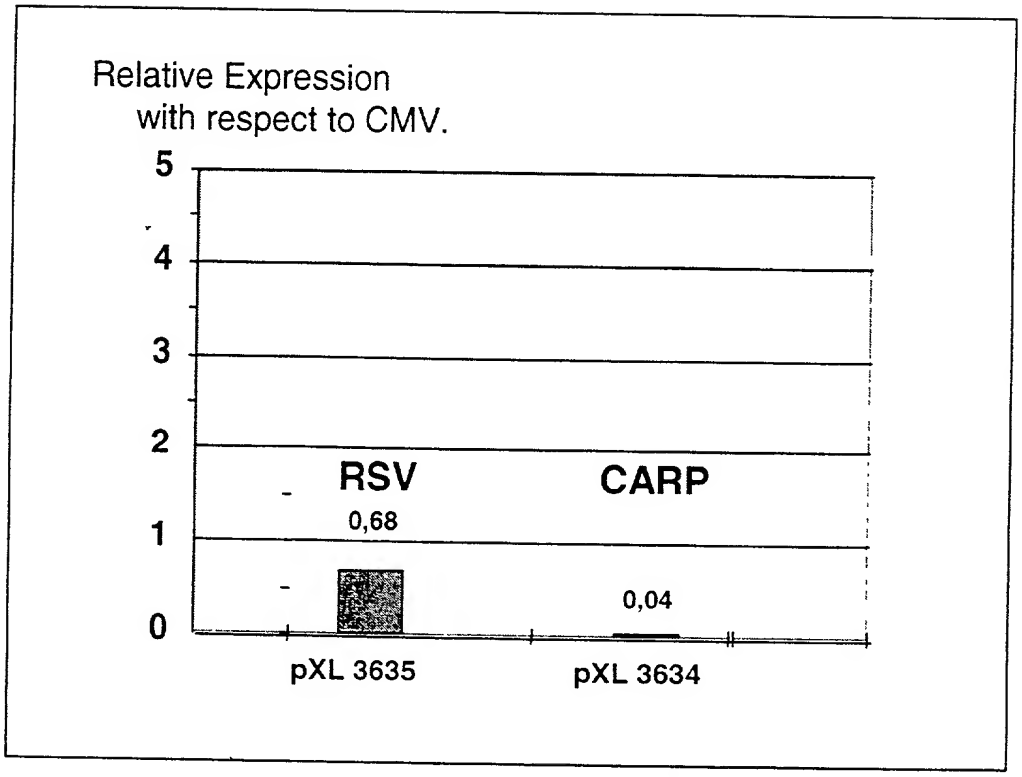

Relative Expression
with respect to CMV.
5
4
3
2
1
0
RSV
CARP
0,68
0,04
pXL 3635
pXL 3634

FIGURE 6A

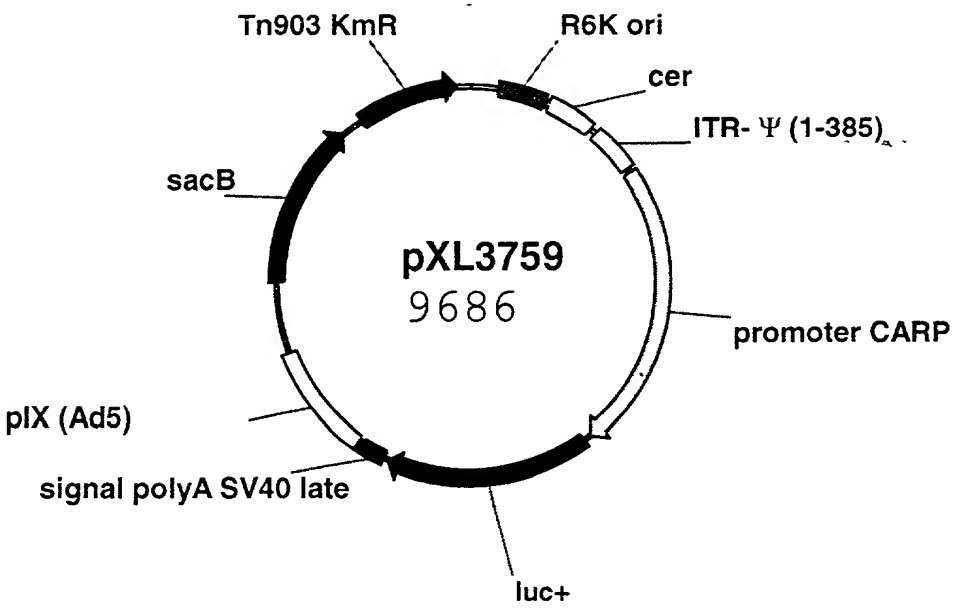



FIGURE 6B

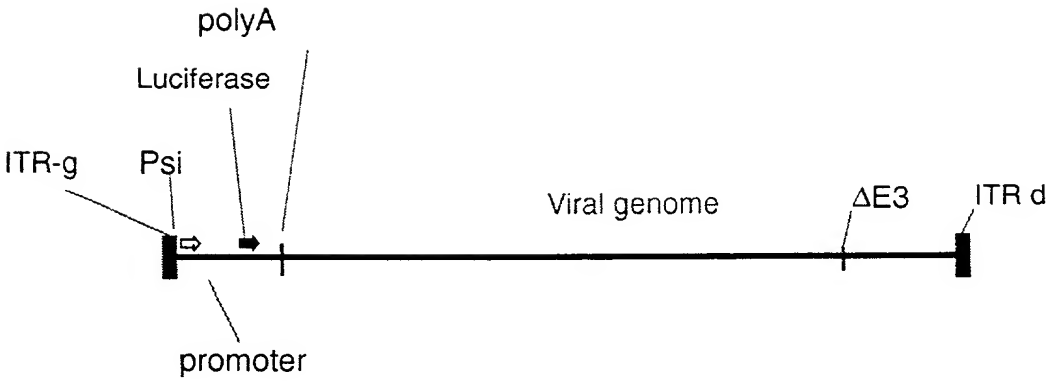


FIGURE 7A

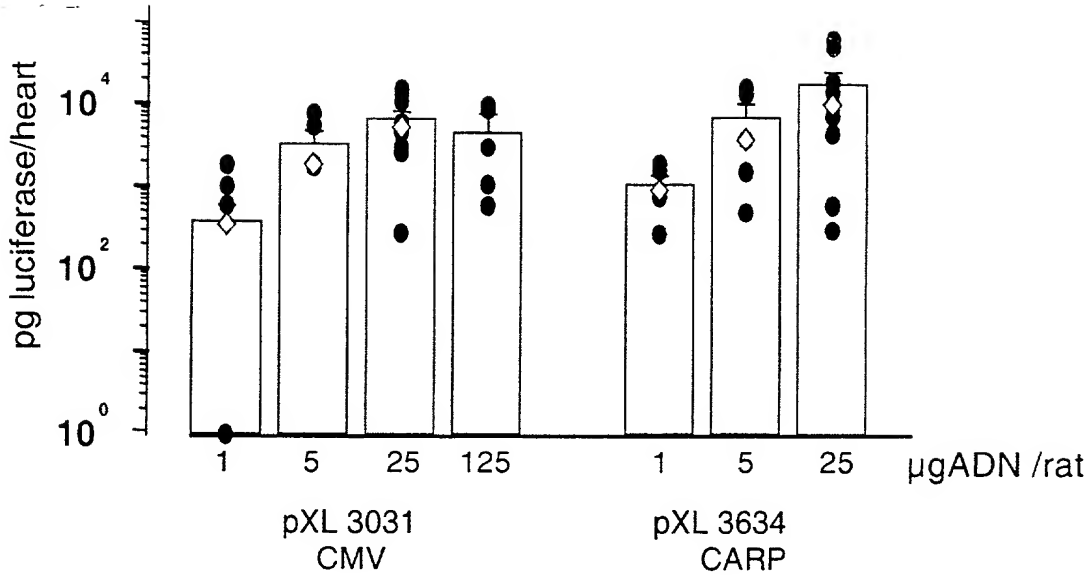
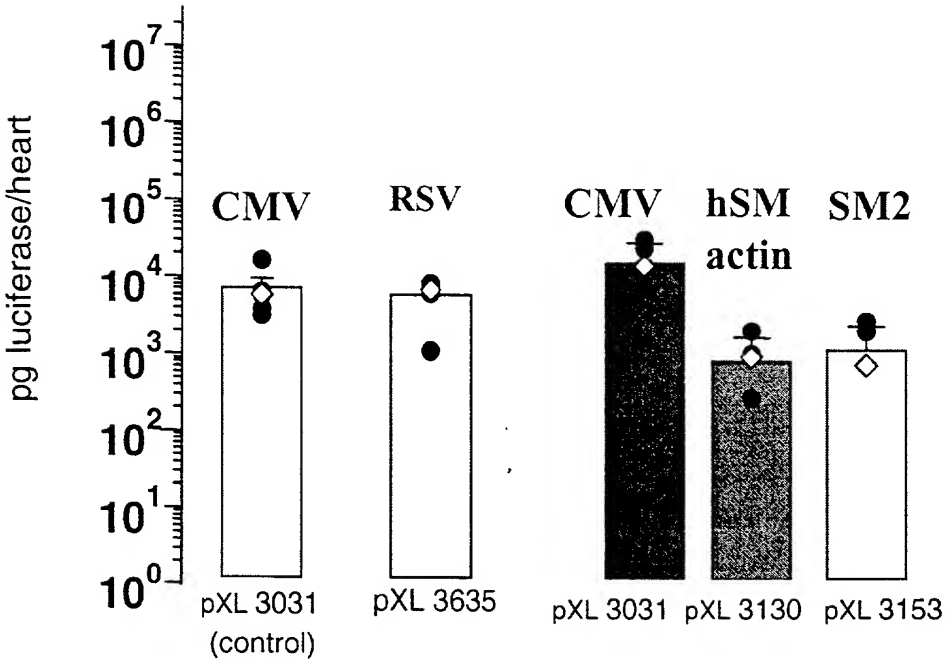
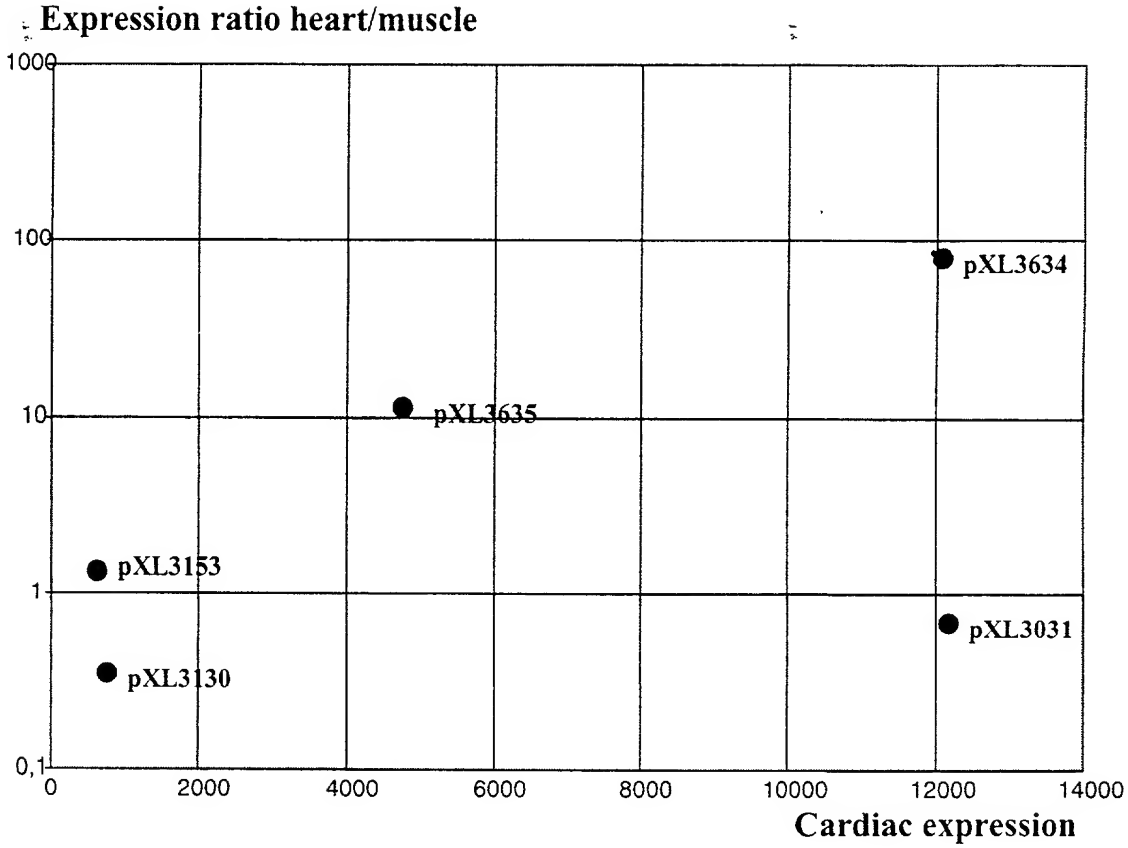



FIGURE 7B



# FIGURE 8


Expression ratio heart/muscle
1000
100
10
1
0,1
0
2000
4000
6000
8000
10000
12000
14000
Cardiac expression
pXL3634
pXL3635
pXL3153
pXL3130
pXL3031